advisory job. The British Consumers' Association is, however, critical of how often pharmacists fail to give advice and of the quality of advice that they do give.⁸ No similar assessment of doctors is available, but equally critical results would probably be obtained. Over the counter medicines are generally not discussed in the medical undergraduate course, but efforts are being made to provide postgraduate education through the manufacturers and through independent sources such as the *Drug and Therapeutics Bulletin* in Britain⁹ and the *Medical Letter* in the US.⁹ At least one study, however, showed a surprising ignorance of over the counter analgesics: when rheumatologists were asked which of a series of non-steroidal anti-inflammatory drugs were available over the counter many were not fully informed on either availability or contents; and only 46% said that they routinely ask their patients about over the counter medicines.¹⁰ No wonder that doctors have been accused of "taking a back seat" in the debate about over the counter medicines.¹¹

I think that the safety monitoring of over the counter drugs can be improved without undermining their cost effectiveness, and I offer the following suggestions. Firstly, the primary responsibility for such monitoring should rest with the manufacturer, but the methods of data collection should be independently peer reviewed. Secondly, doctors should be provided with an accessible source of information on the contents and intended uses of over the counter drugs. The *British National Formulary* contains some of the information, but the data are incomplete and less easy to use than was the discontinued over the counter *MIMS*. Thirdly, data on adverse drug reactions should be collected from all possible sources. Fourthly, all cases should be reported to the regulatory authorities, and these agencies should consider altering their data handling to permit comparison of over the counter and prescription products. Fifthly, particular consideration should be given to developing the potential for pharmacists to collect and report adverse drug reactions on over the counter products. Sixthly, further use should be made of the ability of poisons information services to monitor reports of overdosage of over the counter products. Recent reports from Britain and the US have shown that the over the counter release of ibuprofen has been associated with an increase in reported overdoses; but they have also confirmed the relative safety of this drug when an overdose is taken.¹² Seventhly, where possible international collaboration should be developed to facilitate comparisons, particularly when several countries change the standing of the same drug.

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Non-melanomatous skin cancer: the Queensland experience

Basal cell carcinoma and squamous cell carcinoma of the skin are the commonest malignancies in humans. But unless the patient neglects them or the doctor misdiagnoses them the cure rate is over 90% for both. The public is increasingly interested in the association between exposure to ultraviolet radiation and skin cancer—particularly the risks of sunbathing—and against the background of the recent report by the Royal College of Physicians¹ it is interesting to consider what has been happening in Brisbane, the skin cancer "capital" of the world.

Brisbane is a city with only one million people, yet five years ago it was shown that no fewer than 500 basal cell carcinomas and nearly 100 squamous cell carcinomas were being examined histologically every week.² Today almost all patients with superficial non-melanomatous skin cancer are treated either with excision or with dermatological techniques such as curettage or cryotherapy. It was not always thus. From the mid-1950s to the mid-1960s up to 5000 patients with these lesions were regularly treated with irradiation every year.³ By 1985, however, these figures were less than 100 a year in spite of a doubling of the Brisbane population.

Several factors have acted to bring about this gradual but enormous change. Firstly, in the 1960s there was an increasing awareness that, though the cosmetic results of radiotherapy were excellent at six months, the radiation scars often became atrophic and unsightly later, particularly on parts of the body exposed to years of prolonged and intensive sunbathing. Secondly, the huge numbers of patients being treated were taking up a major proportion of the resources of the Queensland Radium Institute. Thirdly, surgical and dermatological techniques improved, and an increasing number of doctors became skilled in using them. Finally, many patients found the multiple attendance required for fractionated x ray treatment both impracticable and inconvenient.

Discussions with our dermatological colleagues confirm that radiotherapy is used very infrequently in private practice as well, and data from the country centres confirm that the use of radiotherapy for patients with superficial non-melanomatous skin cancer has declined there.³ Nevertheless, all our comments have related only to superficial skin cancers and to patients seen in the tropics. Unfortunately we see extensive advanced basal cell carcinomas and squamous cell carcinomas not uncommonly and for these lesions radiotherapy, either alone or in combination with surgery, still has a major role in treatment.⁴ Finally, radiotherapy may still also be useful for superficial lesions in patients treated in the more temperate climes of the world: where radiation scars are not regularly exposed to subsequent intense solar radiation the cosmetic results are usually good.

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Why sports injury clinics?

Sport is a ritualised form of war, a competitive activity in which dominance by force is the objective. It shares with warfare the skirmishes, pitched battles, the wounded, and even the dead. Fitness and health are, by contrast, non-competitive and individual. One result of health education has been to blur, particularly for the active young, the distinction between fitness and health, and the ability to play sport. Two unfortunate ideas have followed: firstly, that you cannot be fit unless you play sport; secondly, that the way to become fit and healthy is to play sport.

Our recent review in Bristol showed that only 3% of local sports people are of regional or national class—the remainder play at club level or below. A quarter of those playing sport did so more than once a week, and, although a quarter of those playing sport get into condition to play sport, the remaining three quarters play sport to keep fit. It is of little surprise therefore that about one in 10 of the sporting population are injured every year (H E Robson and J G P Williams, communication to the British Association of Sports Medicine, 1961). Between 2.5% and 10% of attendances at accident and emergency clinics follow acute sport injuries (P G Stableforth, unpublished observations).^{1,3}

Sports people suffering acute injury rarely become dependent on others for activities of daily living, but we have found locally that one in two is in full time employment and that three out of four of these workers is losing on average 10 days from work. This fits with other studies and shows the need for prompt and effective treatment.^{2,3} To provide a specialist service nationally has been shown to be expensive,⁴ but a few patients do need immediate care by a sports injury specialist because of their calibre, their job, or the uniqueness of their lesion. Four fifths of the patients, however, have injuries identical to those sustained after home, road, or work accidents and require the same management. The perceived deficiencies in the care of those injured by sport⁵ should thus be a spur to improving general trauma care and providing injury prevention, counselling, and rehabilitation services. They should not be used as a justification for fragmenting care.

Those injured by sport may also present with chronic or relapsing musculoskeletal disorders that interfere only with their chosen sport, or with problems unique to particular training regimens or sporting activities. These patients may find general practitioners impatient when simple remedies fail, casualty officers too inexperienced, and hospital seniors dismissive. For this group clinics run by interested specialists have been shown to be effective. They lessen the number of conflicting diagnoses offered by the many "experts" who pack the dressing rooms of sports clubs.^{2,5,6} These patients deserve a specialist service that will give them accurate diagnosis and specialist treatment and advise on reconditioning, retraining in motor skills, and when to return to the sport.^{3,5,7} This national network of

interested doctors should advise sports people not only on sports injuries but also on general health and nutrition, training regimens, and sport programmes. They would be best able to advise people that the time has come to stop their sport altogether if progressive harm is to be avoided.

Who should offer this advice? Commitment to sports people and a thorough training in sports medicine are much more important than the holding of any particular post: general practitioners, surgical trainees, clinical assistants, and consultants in rheumatology and orthopaedics are already working in this discipline. Their primary requirements are time and access to well staffed diagnostic and treatment facilities. Those who are not working in specialised rehabilitation units or in hospital need the support of colleagues who do for referral of patients. The hospital based specialists should provide the academic background and should spread the new ideas and the proved methods of treatment that are necessary for the sports injury service to thrive.

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Understanding the causes of diseases

Epidemiological methods are used to indicate whether exposure to this or that is (or is not) implicated in the aetiology of this or that disease. Students of the published work in epidemiology will be aware that for some disease associations there is much more controversy than for others. This is not surprising because defining the cause from observational data, with all their opportunities for selection and bias, will rarely be straightforward.

Classic epidemiological method has therefore rightly emphasised the dangers of confounding in interpreting observed disease associations. Hence, though the chance of having a baby with Down's syndrome is unambiguously associated with parity, in that on average women of high parity have a much higher risk than those of low parity, it becomes immediately clear on standardisation for maternal age that parity itself has nothing to do with the risk. Similarly, in all other comparisons of incidence with time, place, and any other interesting characterisation of groups of people it is necessary to standardise for age at least. All diseases have some relation between incidence and age, and comparing rates of any disease between elderly and middle aged people is rarely interesting from an aetiological point of view, except to illustrate this age association.

Hence most comparisons of the incidence of disease are made after age standardisation. Typically this means comparing standardised mortality or morbidity ratios, which are summary statistics using indirect age (and sex)